

ITEM: 18

SUBJECT: Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff into the Sacramento-San Joaquin Delta

BOARD ACTION: *Consideration of Adoption of Proposed Amendment* and Filing of a Draft Environmental Document

BACKGROUND: The Sacramento-San Joaquin Delta Waterways (Delta Waterways) were placed on the Clean Water Act Section 303(d) List in 1996 for aquatic toxicity due to the organophosphate pesticides diazinon and chlorpyrifos. Recent studies show the continued presence of these pesticides in Delta Waterways at levels of concern. The sources of these pesticides are agricultural and urban stormwater and irrigation runoff. Agriculture will be the dominant source of diazinon and chlorpyrifos in the Delta Waterways, since the United States Environmental Protection Agency (USEPA) has recently banned the sale of all non-agricultural uses of diazinon and most non-agricultural uses of chlorpyrifos. The major agricultural uses of diazinon and chlorpyrifos are applications to orchards during the winter dormant season (December through February) and applications to field and orchard crops during the irrigation season, (March through November).

Board staff has developed a Basin Plan Amendment and staff report to address diazinon and chlorpyrifos discharges into the Delta Waterways and to control pesticide runoff. A CEQA scoping meeting and a public workshop have been held during the development of this Basin Plan Amendment to identify and address issues regarding the amendment. The proposed Basin Plan amendment and staff report have been revised in response to scientific peer review and public comments. The proposed Basin Plan Amendment and staff report are available on our website at:

<http://www.waterboards.ca.gov/centralvalley/programs/tmdl/DeltaOP/index.html>

The proposed Basin Plan Amendment is largely based upon the technical and policy framework established in recently adopted Basin Plan amendments addressing diazinon and chlorpyrifos in the two largest tributaries to the Delta, the Sacramento and San Joaquin Rivers. This amendment proposes new numeric water quality objectives for diazinon and chlorpyrifos and a Total Maximum Daily Load (TMDL) for diazinon and chlorpyrifos. This amendment satisfies State and Federal requirements for impaired waterbodies on California's Clean Water Act Section 303d List and Bay Protection Clean-up Plan requirements for the Delta.

The amendment (Resolution Attachment 1) contains the following recommendations:

Delta Waterways – The Amendment identifies 143 specific waterbodies and reaches of waterbodies within the legal boundaries of the Delta to which the proposed water quality objectives and TMDL would apply.

Designated Uses - This Amendment recommends no changes to existing designated uses for the Delta Waterways. The use that is most sensitive to diazinon and chlorpyrifos (freshwater habitat) has already been designated.

Water Quality Objectives - For both diazinon and chlorpyrifos, this Amendment recommends adoption of Water Quality Objectives derived using the USEPA method and applied to datasets screened by the California Department of Fish and Game (CDFG).

TMDL Elements – The amendment contains all the required elements of a Total Maximum Daily Load (TMDL), satisfying USEPA and Clean Water Act requirements. The Amendment establishes the loading capacity, waste load allocations, and load allocations for diazinon and chlorpyrifos discharges to Delta Waterways. The loading capacity and allocations are established at levels necessary to attain the applicable numeric and narrative Water Quality Objectives. A combined additive toxicity formula, found in the Basin Plan, is used to set a loading capacity that accounts for the combined toxicity of diazinon and chlorpyrifos. Equating the allocations to the loading capacity provides an implicit margin of safety, since no dilution credit is given. Since the loading capacity, load allocations and wasteload allocations are not dependant on a particular flow regime, they would not be changed by changes in flows, water diversions or flow routing within the Delta.

Implementation and Time Schedule - This Amendment recommends that, if neither Waste Discharge Requirements (WDRs) nor a Waiver of WDRs apply to diazinon and chlorpyrifos discharges, then a prohibition of discharge would apply when objectives or loading capacity are not met. The prohibition is constructed to address the two seasons of use. A five-year time schedule for compliance with diazinon and chlorpyrifos Water Quality Objectives, allocations and Loading Capacity is recommended to provide sufficient time to attain the objectives and allocations and should be sufficient to get a comprehensive system for control of pesticide runoff into place.

Submission of Management Plans – This Amendment would require dischargers to submit a management plan describing

actions they will take to reduce diazinon and chlorpyrifos discharges in order to meet the applicable allocations.

Surveillance and Monitoring - Surveillance and monitoring required of dischargers will include water quality monitoring, evaluation of changes in pesticide use, surveys of adoption of management practices to reduce diazinon and chlorpyrifos in runoff, and evaluation of the effectiveness of the management practices in reducing pesticide runoff.

Consideration of Economics - The total costs of implementation of this amendment are estimated to range from \$6.4 million to \$14.4 million. This includes cost for implementing management practices for the reduction of pesticide runoff, compliance monitoring, planning and evaluation. These costs are likely a high end estimate because they assume that no dischargers are currently implementing pesticide management practices and they do not account for the partially redundant nature of the costs of compliance with this amendment with costs required for compliance with existing Basin Plan objectives, the Irrigated Lands Conditional Waiver, and other use regulations from the Department of Pesticide Regulation. These estimated costs are all for agricultural dischargers. Due to the phase-out of almost all non-agricultural uses of these pesticides, no costs are projected to occur for NPDES permit holders as a result of this amendment.

California Environmental Quality Act (CEQA) - This Basin Plan Amendment does not require or allow any changes in pesticide application practices that could degrade the quality of the environment, or have environmental effects that could cause substantial indirect or direct adverse effects on human beings.

ISSUES:

Makhteshim Agan of North America (MANA) and Dow Agro, the makers of diazinon and chlorpyrifos, respectively, have argued against the direct use of the Basin Plan's additivity formula to address diazinon and chlorpyrifos in the Delta. The pesticide manufacturers have argued that the additivity formula should not be used for "low" levels of diazinon and chlorpyrifos. Scientific evidence suggests that since diazinon and chlorpyrifos have the same mode of toxic action, any concentration of either of these pesticides has the potential to contribute to a toxic effect. Therefore the use of the additivity formula is appropriate in this case.

MANA has suggested that the Board adopt the USEPA's recently released water quality criteria for diazinon. The USEPA diazinon criteria are somewhat higher than the proposed diazinon water quality objectives. Both sets of criteria were generated using the standard USEPA methodology. The difference is due to the

toxicity study data sets used in generating the criteria. Staff believes the California Department of Fish and Game data set used to generate the proposed objectives is more appropriate. The CDFG data set was generated using more stringent criteria for inclusion of toxicity studies. Two of the toxicity studies used by USEPA were of questionable quality and were not used to derive the proposed objectives. The CDFG data set also included key studies on chronic effects not considered included in the USEPA data set.

These issues do not reflect the written comments submitted, which are due on 7 June 2006.

RECOMMENDATION: Adopt the proposed Basin Plan Amendment.

Mgmt. Review_____

Legal Review_____

22/23 June 2006

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